	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	27529	(microtiter or microtitration or microtitre or terasaki or micro adj(titre or titer or titration filter or filtration) or microfilter or microfiltration or multiwell or(multi or multiple or array) near1 well or microwell)near3(plate or tray or support or substrate or holder or chip or microchip)or (microplate or microchip)near3(well or multiwell or array)	USPAT	2005/06/16 06:39
2	BRS	L2	120801	(protein or peptide or dna or ploypeptide or oligonucleotide or polynucleotide or polysaccharide or oligosaccharide or polyamino$)with(synthesi$ or prepare or prepared or preparation or preparing or synthetic or form or forming or formed or formation or make or making (sequence or sequential)near3(step or reaction))	USPAT	2005/06/16 06:47
3	BRS	L3	20638	1 and 2	USPAT	2005/06/16 06:47
4	BRS	L4	3186	1 same 2	USPAT	2005/06/16 06:48
5	BRS	L5	1005	1 with 2	USPAT	2005/06/16 07:33
6	BRS	L6	2181	4 not 5	USPAT	2005/06/16 07:34

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FILE 'CA' ENTERED AT 08:00:33 ON 16 JUN 2005
L1 8329 S (MICROTITER OR MICROTITRATION OR MICROTITRE OR TERASAKI OR MICRO (W)(TITRE OR TITER OR TITRATION FILTER OR FILTRATION) OR MICROFILTER OR MICROFILTRATION OR MULTIWELL OR(MULTI OR MULTIPLE OR ARRAY)(1A)WELL OR MICROWELL)(3A)(PLATE OR TRAY OR SUPPORT OR SUBSTRATE OR HOLDER OR CHIP)
L2 3 S (MICROTITER OR MICROTITRATION OR MICROTITRE OR TERASAKI OR MICRO (W)(TITRE OR TITER OR TITRATION FILTER OR FILTRATION) OR MICROFILTER OR MICROFILTRATION OR MULTIWELL OR(MULTI OR MULTIPLE OR ARRAY)(1A)WELL OR MICROWELL)(3A)(MICROCHIP)
L3 864 S (MICROPLATE OR MICROCHIP)(3A)(WELL OR MULTIWELL OR ARRAY)
L4 750021 S (PROTEIN OR PEPTIDE OR DNA OR POLYPEPTIDE OR OLIGONUCLEOTIDE POLYNUCLEOTIDE OR POLYSACCHARIDE OR OLIGOSACCHARIDE OR POLYAMINO? OR OLIGOMER?)(10A)(PREPAR? OR FORM OR FORMING OR FORMATION OR SYNTHES? OR SYNTHETIC OR MANUFACTURE OR(SEQUENCE OR SEQUENTIAL)(3A)(STEP OR REACTION)OR PRODUC?)
L5 1237 S L1-3 AND L4
L6 331 S L5 NOT PY>1994
L7 449 S L5 NOT L6 AND PATENT/DT
L8 64 S L7 AND PY<1996
L9 395 S L6,L8
L10 49 S L9 AND(AUTOMAT? OR ROBOT? OR APPARATUS OR DEVICE OR INSTRUMENT)
L11 105 S L9 AND(SOLID PHASE OR BEAD OR SUPPORT OR PARTICLE)
L12 141 S L10-11

=> d bib,ab 1-141 l12

L12 ANSWER 13 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 121:301331 CA
TI **Apparatus** for **peptide synthesis.**
IN Nokihara, Kiyoshi
PA Shimadzu Corp., Japan
SO Eur. Pat. Appl., 9 pp.
PI EP 608779 A1 19940803 EP 1994-100864 19940121
PRAI JP 1993-27641 A 19930123
AB An **app.** for **peptide synthesis** has a means of repeating a series of washing, coupling, washing and deprotecting steps in a stream of an inert gas, a needle for injection /aspiration of reagents, and a **microtiter plate** with linker group-derivatized wells or having linker group-derivatized membrane filters placed in the wells. The **peptide synthesizer** allows easy washing of the solid **support** with only a small amt. of solvent. It also makes it possible obtention of the **synthesized product** as a **peptide** soln. directly from the reaction vessel by sequentially performing cleavage in the reaction vessel (in situ cleavage) after completion of peptide chain assembly. Use of hydroxyphenoxyacetic acid-derivatized polypropylene plates and membrane filters together with FMOC chem. for **peptide synthesis** is described and an **app.** diagram is given.

L12 ANSWER 18 OF 141 CA COPYRIGHT 2005 ACS on STN

AN 120:262372 CA
TI Membrane-linked probes: 5'-(polysulfonylmethyloxyhexaglycol) oligonucleotides
AU Arad-Yellin, R.; Warshawsky, A.; Segev, D.
CS Dep. Org. Chem., Weizmann Inst. Sci., Rehovot, 76100, Israel
SO Reactive Polymers (1993), 19(1-2), 67-72
AB A novel approach for the synthesis of functional, film-**forming** polymers which consists of the assembly of **oligonucleotides** anchored on a solid **support** with a sol. polymeric reagent is described. Phosphoramidites of hydroxymethyl-polysulfone and hexaglycoloxymethyl-polysulfone were **synthesized** and were linked by phosphate ester bonds to fragments of **DNA** anchored on controlled pore glass **supports** in the last step of an **automatic synthesis** of **oligonucleotides**. **Microtiter plates** were coated with the oligonucleotide-hexaethyloxymethyl-polysulfone and hybridization with a complementary biotin-labeled DNA probe was applied followed by avidin-peroxidase and detection by the usual procedure. Control expts. using a non-relevant probe for hybridization or using hybridization solns. with no oligonucleotide were also performed.

L12 ANSWER 31 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 119:199141 CA
TI Computer-driven amino acid indexer for **peptide synthesis**
IN Van Albert, Stephen A.; Lee, Jaime M.; Lyon, Jeffrey A.; Carter, John M.
PA United States Dept. of the Army, USA
SO U.S., 14 pp.
PI US 5243540 A 19930907 US 1991-679990 19910403
PRAI US 1991-679990 19910403
AB An **automated**, computer-driven amino acid indexer for **peptide synthesis** uses a programmed computer, a circuit-board controller, and a combination of **microtiter** sample well **trays**, light-emitting diodes to illuminate each sample well, and circuitry to control the illumination of the diodes. The **app**. simplifies tech. difficulties present in large-scale lab. **syntheses** of **peptides** by substantially reducing the time required for dispensing amino acids into the sample trays and reducing the occurrence of error in the process to negligible levels in typical syntheses. A programmed, **automated** technique for **synthesizing peptides** is also provided. Diagrams of the **app**. are included. Std. **microtiter plates** may be used with the indexer of the invention.

L12 ANSWER 42 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 119:4313 CA
TI High-throughput **DNA preparation** system
AU Garner, Harold R.; Armstrong, Barbara; Kramarsky, Daniel A.
CS Dev. Adv. Technol. Gen. At., San Diego, CA, 92186, USA
SO Genetic Analysis: Techniques and Applications (1992), 9(5-6), 134-9
AB A system demonstrating the feasibility of high-throughput, centrifugation-based DNA sepns. and purifications has been constructed and tested. Samples are currently processed at a rate of 96 in ~2-3 h. The **device** implements an **automation**-optimized alk. lysis protocol for the rapid extn. of plasmid or cosmid DNA from 1-mL bacteria cultures. The conditions for optimal culturing in deep-well (96 × 1 mL) **microwell plates** have been developed, and all sample manipulations are done within these plates. The use of **microwell plates** was essential to obtain high

throughput and make manipulations following the **DNA prepn.** (**prep**) easier because they can then be manipulated using a variety of com. available **robots**. The entire prep system is constructed above a Beckman GPR centrifuge and operated under Macintosh IIcx control. This **device** has systems for fluid handling, **microwell-plate** manipulations, and centrifuge rotor alignment.

L12 ANSWER 56 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 117:234542 CA
TI Rapid **synthesis** of series of **peptides** by a **robotic** workstation
AU Schnorrenberg, G.
CS Dep. Med. Chem., Boehringer Ingelheim KG, Ingelheim, D-6507, Germany
SO Chimica Oggi (1992), 10(6-7), 33-6
AB A new method for the **automatic** simultaneous multiple **peptide synthesis** has been developed. Up to 144 different **peptides** can be **prepd.** on polystyrene resins in **microtiter plates** in 5-30 μmolar scale using an adopted **robotic** workstation. The impact of this technique on the rapid evaluation of structure-activity relationships is demonstrated by the prepn. of overlapping segments of endothelin and of point-mutated analogs of a neuropeptide Y segment.

L12 ANSWER 81 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 114:229402 CA
TI **Solid phase synthesis** of **peptides** on a functionalized transparent polystyrene **support**
IN Okrongly, David; Clark, Brian R.; Spesard, Jack
PA Applied Immunesciences, Inc., USA
SO Eur. Pat. Appl., 13 pp.

PI	EP 400920	A1	19901205	EP 1990-305731	19900525
	US 5286789	A	19940215	US 1993-41901	19930402
PRAI	US 1989-357987	A	19890526		

AB Peptides bound to an optically clear polystyrene **support**, useful as ligands in diagnostic assays (e.g. ELISA assay) are prepd. by sequential coupling of protected activated amino acids on a functionalized surface of a fabricated transparent polystyrene article (e.g. **beads** or plates) after which cleavage of the **support** gives free peptides for various uses. The transparency of the surface as well as the efficiency of the peptide coupling is maintained by choice of reagents and solvents; the activated amino acids are esters of pentafluorophenol, 1-hydroxybenzotriazole, 3,4-dihydro-3-hydroxy-4-oxo-1,2,3-benzotriazine, p-nitrophenol, or N-hydroxysuccinimide; the solvents are a mixt. of tetramethylene sulfone and DMSO; and a capping reagent is 1-acetylimidaole. The surface of the fabricated polystyrene is functionalized at high d. with linking groups (e.g. CH2NHCH2CO or thioalkyleneamine) via reaction of the surface with XRCHCONHCH2Y [R = H, C1-3 alkyl; X = (pseudo)halo; Y = a group capable of nucleophilic substitution] in the presence of a strong protonic acid. Thus, polystyrene **microtiter plates** (Dynatech) were functionalized by contacting with a soln. of N-(hydroxymethyl)-2-bromoacetate in tetramethylene sulfone contg. CF3SO3H followed by reaction with H2NCH2CH2SH in tetramethylene sulfone/DMSO to give (aminoethylthio) acetamide (AEA) primary amine surface for **peptide synthesis**. Reaction of the functionalized plate with 4-(hydroxymethyl)phenoxyacetic acid

pentafluorophenyl ester gave a cleavable linker-contg. polystyrene plate on which α-MSH was prepd.

L12 ANSWER 85 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 114:116336 CA
TI An **automated** method for **DNA preparation** from thousands of YAC clones
AU MacMurray, Armand J.; Weaver, Alix; Shin, Hee Sup; Lander, Eric S.
CS Whitehead Inst. Biomed. res., Cambridge, MA, 02142, USA
SO Nucleic Acids Research (1991), 19(2), 385-90
AB An **automated** method is described for the **prepn.** of yeast genomic **DNA** capable of **prepg.** thousands of **DNAs** in parallel from a YAC library. Briefly, the protocol involves 4 steps: (1) Yeast clones are grown in the wells of 96-well **microtiter plates** with filter (rather than plastic) well-bottoms, which are embedded in solid growth media; (2) These yeast cultures are resuspended and their concns. detd. by optical d. measurement; (3) Equal nos. of cells from each well are embedded in low-melting temp. agarose blocks in fresh 96-well plates, again with filter bottoms; and (4) **DNA** in **prepd.** in the agarose blocks by a protocol similar to that used for **prepg. DNA** for pulsed-field gels, with the reagents being dialyzed through the (filter) bottoms of the **microtiter plate.** The **DNA produced** by this method is suitable for pulsed-field gel electrophoresis, for restriction enzyme digestion, and for the polymerase chain reaction (PCR). Using this protocol, 3000 YAC strain **DNAs** were **produced** in 3 wk. This **automated** procedure should be extremely useful in many genomic mapping projects.

L12 ANSWER 88 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 114:76347 CA
TI Semiautomated **preparation** of **DNA** templates for large-scale sequencing projects
AU Smith, V.; Brown, C. M.; Bankier, A. T.; Barrell, B. G.
CS Lab. Mol. Biol., Med. Res. Counc., Cambridge, CB2 2QH, UK
SO DNA Sequence (1990), 1(1), 73-8
AB The rate limiting step in a large-scale sequencing project is the generation of single-stranded DNA templates. A fast, semiautomated procedure is described which uses 96-well **microtiter plates,** in which 192 templates can be readily prepd. in 1 day. The technique can be carried out manually or can be semiautomated using a **robot** pipetting **device.** Also, evidence is provided for the reliability and applicability of this method to a large-scale sequencing project.

L12 ANSWER 94 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 113:41334 CA
TI A method for **automated peptide** design and **synthesis**
IN Saxinger, Carl
PA United States Dept. of Health and Human Services, USA
SO U. S. Pat. Appl., 48 pp. Avail. NTIS Order No. PAT-APPL-7-398 458.

PI	US 398458	A0	19900115	US 1989-398458	19890825
	US 6031074	A	20000229		
	WO 9102714	A1	19910307	WO 1990-US4725	19900821
PRAI	US 1989-398458	A	19890825		

AB An **automated peptide** design and **synthesis** method was described as a departure from the known "rod" and "pin" **peptide synthesis** technol., in

which **peptides** were **synthesized** on interior, inward facing surfaces of reservoirs formed in a solvent resistant **substrate**, such as **microtiter** glass or plastic **multiwell plates**. The surfaces of Costar TPX microtiter strip wells or polypropylene tubes in 96-well **microtiter plate** format of a com. available **robotic** workstation were oxidized by 70% HNO3 over 2 h at 60°, surface CO2H groups were activated by 0.05 M carbonyldiimidazole in N-methylpyrrolidone (NMP) during 30 min at 20°, and treated with a 1% polyethyleneimine soln. in NMP. The substrate surface was then treated with a 0.5 M soln. of a carboxy terminal-protected amino acid in NMP contg. 0.5 M hydroxybenzotriazole, protective groups were removed, and the further coupling and peptide chain elongation followed. Completed peptides could be released or used covalently bound to the substrate in biol. tests and expts., e.g., rapid screening and detn. of B-cell and T-cell immunogenic **protein** sites, creation of **synthetic** vaccines, mapping virus-cell receptor sites, stimulation of cells in response to active peptides, etc. New substrates and new solns. for storing protected carboxyl terminal amino acids for up to ≥3 mo were also provided.

L12 ANSWER 96 OF 141 CA COPYRIGHT 2005 ACS on STN
AN 113:6819 CA
TI Fully **automated** process and **apparatus** for simultaneous **solid phase synthesis** of several **peptides** on a **microfilter plate**
IN Schnorrenberg, Gerd; Knapp, Wilhelm
PA Boehringer Ingelheim K.-G., Germany; Boehringer Ingelheim International G.m.b.H.
SO Eur. Pat. Appl., 6 pp.
PI EP 355582 A2 19900228 EP 1989-114710 19890809
PRAI DE 1988-3828576 A 19880823
AB Several **peptides** were **synthesized** simultaneously on a **microtiter plate** whose wells contained a resin **support**. A **robot** pipetting arm was used to deliver and remove reagents to and from individual wells. Thus, 44 different undecapeptides (including Ac-His-Tyr-Ile-Asn-Leu-Ile-Thr-Arg-Gln-Arg-Tyr-NH2) were prepd. on polystyrene **supports** using a Tecar RSP5052 pipetting **robot**, N-(9-fluorenylmethyoxycarbonyl)amino acids, and DCC.

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